

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

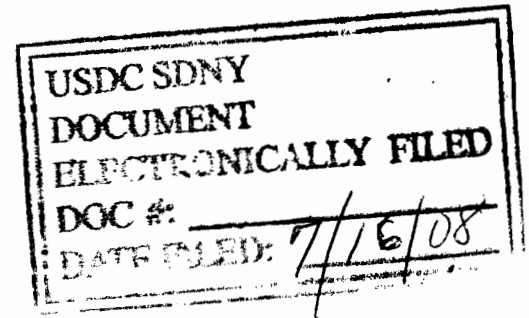
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**BRASSICA PROTECTION PRODUCTS
LLC and THE JOHNS HOPKINS
UNIVERSITY,**

Plaintiffs,

- against -

**CAUDILL SEED & WAREHOUSE CO.,
INC.,**

Defendant.
----- X



OPINION AND ORDER

07 Civ. 7844 (SAS)

SHIRA A. SCHEINDLIN, U.S.D.J.:

I. INTRODUCTION

Brassica Protection Products LLC (“Brassica”) and the Johns Hopkins University (“Johns Hopkins”) allege that Caudill Seed & Warehouse Co., Inc. (“Caudill”) infringed certain of their patents directed to the preparation of food products containing specific chemoprotective compounds. Despite the termination of a prior sub-license agreement between Brassica and Caudill, plaintiffs contend that Caudill has continued to produce, distribute, offer to sell, and sell products covered by the patents without authorization to do so.

The parties dispute the meaning of two terms contained in a number of the asserted claims of the relevant patents. Caudill requests that the Court construe an additional eighteen terms. Plaintiffs do not believe that those terms

require separate construction. Based on the rulings set forth below, I agree that the additional terms need not be construed.¹ A Markman Hearing was held on June 16, 2008.² The Court's construction of the two disputed terms follows.

II. BACKGROUND

A. Facts

1. Patents at Issue

There are five patents at issue – U.S. Patent Nos. (1) 5,725,895 (the “‘895 patent”); (2) 5,968,567 (the “‘567 patent”); (3) 6,177,122 (the “‘122 patent”); (4) 6,242,018 (the “‘018 patent”); and (5) 7,303,770 (the “‘770 patent”). The ‘895 patent is the original patent, first filed with the U.S. Patent and Trademark Office (the “USPTO”) on September 15, 1995 and issued on March 10, 1998.³ The ‘567 patent is a continuation of the ‘895 patent, and the ‘122, ‘018,

¹ The construction of those remaining terms can be readily derived from the Court's constructions of “extract” and “food product” as set forth in this Opinion and Order and/or are otherwise apparent to one possessing ordinary skill in the relevant art at the time of invention. As a result, I decline to separately construe those terms.

² See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

³ See ‘895 Patent, Ex. 1 to Joint Exhibits Filed Under Seal Pursuant to Protective Order to Joint Claim Construction and Prehearing Statement (“Joint Exhibits”).

and ‘770 patents are, in turn, divisionals of the ‘567 patent.⁴ The latter four patents will expire when the ‘895 patent expires, and all patents share the specification for the ‘895 patent (the “patent specification”).

Both the ‘895 and ‘567 patents are entitled “Method of Preparing a Food Product from Cruciferous Seeds.” The ‘122, ‘018, and ‘770 patents are entitled “Cancer Chemoprotective Food Products.” All of the patents generally purport to set forth a method for preparing food products and additives rich in certain plant compounds known to have anti-carcinogenic and chemoprotective properties.

It has been widely accepted that cruciferous plants such as broccoli contain chemical compounds – specifically, isothiocyanates and their precursors, glucosinolates (“G&I”) – that elevate levels of Phase 2 enzymes, which are known to detoxify carcinogens in the human body.⁵ It has also been previously

⁴ The USPTO defines a “continuation” as a “second application for the same invention claimed in a prior nonprovisional application and filed before the original prior application becomes abandoned or patented.” *Manual of Patent Examining Procedure* § 201.07, available at http://www.uspto.gov/web/offices/pac/mpep/documents/0200_201_07.htm#sect201.07. A “divisional” is defined as a “later application for an independent or distinct invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in the earlier or parent application” *Id.* § 201.06, available at http://www.uspto.gov/web/offices/pac/mpep/documents/0200_201_06.htm.

⁵ “Phase 1 enzymes catalyze the activation of procarcinogens to reactive electrophiles which react with DNA and initiate carcinogenesis. Phase 2

discovered that the use of the seeds or sprouts of these plants leads to the greatest amount of Phase 2 enzyme-inducing potential. Techniques for the extraction of the Phase 2 enzyme-inducers from cruciferous vegetables existed prior to the patents at issue. According to the patent specification, however, plaintiffs' patents set forth an "improved procedure" resulting in the increased recovery of Phase 2 enzyme inducer activity and inducer potential.⁶

The patent specification lists the following three objectives: (1) "to provide food products and food additives that are rich in cancer chemoprotective compounds;" (2) "to provide food products which contain substantial quantities of Phase 2 enzyme-inducers and are essentially free of Phase 1 enzyme-inducers;" and (3) "to provide food products which contain substantial quantities of Phase 2 enzyme-inducing potential and non-toxic levels of indole glucosinolates and their breakdown products and goitrogenic hydroxybutenyl glucosinolates."⁷

2. Relationship Between Plaintiffs and Defendant

Drs. Jed W. Fahey and Paul Talalay of Johns Hopkins are listed as the

enzymes detoxify the reactive products of Phase 1 enzymes, and the reactive oxygen species resulting from normal oxidative cellular processes." *The Science of Chemoprotection Tutorial*, presented to the Court on June 16, 2008 by Dr. Paul Talalay, Department of Pharmacology, The Johns Hopkins Medical School.

⁶ '895 Patent at col. 8 l. 58.

⁷ *Id.* at col. 2 ll. 37-49.

inventors of the patents at issue. Johns Hopkins School of Medicine is listed as the assignee. These patent rights were exclusively licensed to Brassica by Johns Hopkins as of March 10, 1998 for the use, manufacture, and worldwide sale by Brassica of licensed products, as defined in the agreement, for the life of the patents.⁸ Brassica granted Caudill a non-exclusive sub-license (the “Agreement”) as of December 6, 2004 to manufacture, sell, offer to sell, and distribute products – defined in the Agreement as extracts of glucosinolates and isothiocyanates from cruciferous seeds or sprouts – in North America.⁹

B. Procedural History

On September 5, 2007, Brassica filed suit in this Court against Caudill for infringement of four of the five patents at issue, breach of contract, and trademark infringement. Brassica amended the Complaint on February 19, 2008 to add Johns Hopkins as a plaintiff as well as to add an infringement claim for the ‘770 patent.

Plaintiffs allege that Caudill committed several “events of default” as defined by the Agreement and failed to cure those events, thereby breaching the Agreement. Brassica alleges that Caudill, inter alia, failed to manufacture the

⁸ See Amended Complaint (“Compl.”) ¶ 12.

⁹ See *id.* ¶ 13.

products in compliance with certain good practice and quality control specifications, failed to obtain advance approval by Brassica for labels and packaging, and failed to pay royalties that were due. The Agreement ended in July 2007. Notwithstanding the termination of the Agreement and Caudill's events of default, Brassica claims that Caudill continues to manufacture, sell, and distribute the products and has failed to return confidential manufacturing information to Brassica.

In November 2007, Caudill moved to dismiss, stay, or transfer this action to the Western District of Kentucky where Caudill had filed suit for a declaratory judgment of non-infringement and invalidity of the patents at issue. By Memorandum Opinion and Order dated December 19, 2007, this Court denied the motion based on a forum selection clause in the Agreement which designated New York.¹⁰ The declaratory judgment action in Kentucky was subsequently transferred to this district, assigned to this Court as related to the instant action, and both cases have now been consolidated.¹¹

¹⁰ See *Brassica Prot. Prods. LLC v. Caudill Seed & Warehouse Co., Inc.*, No. 07 Civ. 7844, 2007 WL 4468655 (S.D.N.Y. Dec. 19, 2007).

¹¹ See *Caudill Seed & Warehouse Co., Inc. v. Brassica Prot. Prods. LLC*, No. 07-464-C, 2008 WL 516421 (W.D. Ky. Feb. 27, 2008). Caudill answered the Complaint in the action originally filed in this Court and asserted a counterclaim, which is the same claim raised in its declaratory judgment action. As a result, the parties jointly stipulated to consolidation of the two actions on the

III. APPLICABLE LAW

Determination of infringement in a patent case involves two steps: (1) construction of the terms of the asserted claims (“claim construction”) and (2) a determination of whether the accused device infringes the claims, as construed.¹² Claim construction is a question of law,¹³ the purpose of which is to determine what is covered by the claims of a patent. In other words, “[t]he construction of claims is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims.”¹⁴ Claim disputes often turn on the meaning of a phrase, a word, or a single functional or structural aspect of the patented device.

Courts confronted with the task of construing patent claims are guided by well-settled principles of interpretation. Of primary importance is the “intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the

ground that the “sole claim in [the action transferred from the Western District of Kentucky] . . . is also asserted as a counterclaim in the instant action.” 6/2/08 Stipulation and Order to Consolidate Actions ¶ 1.

¹² See *Metabolite Labs., Inc. v. Laboratory Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed. Cir. 2004).

¹³ See *Markman*, 517 U.S. at 384, 390-91.

¹⁴ *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1322 (Fed. Cir. 2001) (quoting *Embrex, Inc. v. Service Eng’g Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000)).

specification and, if in evidence, the prosecution history.”¹⁵ “The intrinsic evidence constitutes the public record of the patent on which the public is entitled to rely.”¹⁶

Additionally, courts may, as a discretionary matter, receive extrinsic evidence, such as expert testimony, to understand the technical aspects of a patent.¹⁷ However, extrinsic evidence cannot be used to “arrive at a claim construction that is clearly at odds with the construction mandated by the intrinsic evidence.”¹⁸ Resort to extrinsic evidence should only be made if needed to resolve an ambiguity in a disputed claim term.¹⁹ Indeed, “if the intrinsic evidence is sufficient to resolve the meaning of a disputed term, it is improper to resort to extrinsic evidence, such as expert testimony or treatises.”²⁰

¹⁵ *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Intrinsic evidence is the “most significant source” in ascertaining the “legally operative meaning of disputed claim language.” *Id.*

¹⁶ *Advanced Card Techs. LLC v. Versatile Card Tech., Inc.*, 410 F. Supp. 2d 158, 162 (S.D.N.Y. 2006) (citing *Markman*, 52 F.3d at 979).

¹⁷ *See Metabolite Labs.*, 370 F.3d at 1360.

¹⁸ *Medinol Ltd. v. Guidant Corp.*, No. 03 Civ. 2604, 2004 WL 2210290, at *3 (S.D.N.Y. Sept. 30, 2004) (quotation marks omitted).

¹⁹ *See Advanced Card Techs.*, 410 F. Supp. 2d at 162 (citing *CVI/Beta Ventures, Inc. v. Tura, L.P.*, 112 F.3d 1146, 1153 (Fed. Cir. 1997)).

²⁰ *Joao v. Sleepy Hollow Bank*, 418 F. Supp. 2d 578, 581-82 (S.D.N.Y. 2006) (citing *Vitronics*, 90 F.3d at 1583) (stating that the Federal Circuit has

Courts first consider the “words of the claims themselves . . . to define the scope of the patented invention.”²¹ A claim term is presumed to possess its ordinary and customary meaning in view of both the temporal and technological context in which it arose. That is, the critical inquiry for purposes of claim construction relates to how “artisans of ordinary skill in the relevant art at the time of invention” understood the claim terms.²² The presumption favoring the general usage of particular terms can be rebutted by evidence in the intrinsic record. For instance, “a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.”²³ Moreover, “claim language should be read in a manner that causes the claim to make sense. Courts are to construe claims so as to sustain a patent’s validity

reinforced its instruction that courts should “not look to extrinsic evidence such as dictionaries where the patent and its prosecution history provide sufficient guidance”).

²¹ *Vitronics*, 90 F.3d at 1582.

²² *Metabolite Labs.*, 370 F.3d at 1360 (“Indeed, normal rules of usage create a ‘heavy presumption’ that claim terms carry their accustomed meaning in the relevant community at the relevant time.”).

²³ *Vitronics*, 90 F.3d at 1582.

where possible.”²⁴

Accordingly, courts also review the patent specification, which is perhaps the “single best guide to the meaning of a disputed term”²⁵ and demonstrates whether the patentee “used terms in a manner inconsistent with their ordinary meaning.”²⁶ The specification contains a “written description of the invention which must be clear and complete enough to enable those of ordinary skill in the art to make and use it.”²⁷ The presumption of ordinary meaning is overcome by the specification where the patentee “has set forth a definition for the term different from its . . . customary meaning or where the patentee has disavowed or disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”²⁸ The Federal Circuit has made clear that “dictionaries are to be consulted only after looking at the specification, because the specification is the best guide to the

²⁴ *Joao*, 418 F. Supp. 2d at 581 (citing *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984)).

²⁵ *Vitronics*, 90 F.3d at 1582.

²⁶ *DeMarini Sports*, 239 F.3d at 1323.

²⁷ *Vitronics*, 90 F.3d at 1582. *See also* 35 U.S.C. § 112.

²⁸ *International Rectifier Corp. v. IXYS Corp.*, 361 F.3d 1363, 1370 (Fed. Cir. 2004).

meaning of a term.”²⁹

Courts also examine the prosecution history of the patent to assess whether the patentee made express representations regarding the scope and meaning of the claims to obtain the patent.³⁰ The prosecution history includes the record of all proceedings relating to the patent that took place before the USPTO, including “any express representations made by the applicant regarding the scope of the claims,” and possibly an examination of the prior art.³¹

“As in the case of the specification, the patent applicant’s consistent usage of a term in prosecuting the patent may enlighten the meaning of that term.”³² In particular, under the doctrine of prosecution disclaimer, the prosecution history “limits the interpretation of claim terms so as to exclude any

²⁹ *Advanced Card Techs.*, 410 F. Supp. 2d at 163 (citing *Free Motion Fitness, Inc. v. Cybex Int’l, Inc.*, 423 F.3d 1343, 1348-49 (Fed. Cir. 2005)).

³⁰ *See DeMarini Sports*, 239 F.3d at 1323.

³¹ *Vitronics*, 90 F.3d at 1582. *Accord Middleton, Inc. v. Minnesota Mining & Mfg. Co.*, 311 F.3d 1384, 1388 (Fed. Cir. 2002) (“This court also considers the prosecution history . . . to determine whether the applicant clearly and unambiguously disclaimed or disavowed [any interpretation] during prosecution in order to obtain claim allowance.”) (quotation marks and citation omitted).

³² *Metabolite Labs.*, 370 F.3d at 1360.

interpretation that was disclaimed during prosecution.”³³ Indeed, it is a “fundamental precept” in claim construction jurisprudence that patentees cannot “recaptur[e] through claim interpretation specific meanings disclaimed during prosecution.”³⁴ This “promotes the public notice function of the intrinsic evidence and protects the public’s reliance on definitive statements made during prosecution.”³⁵

Although prosecution disclaimer does not attach where the “alleged disavowal of claim scope is ambiguous,”³⁶ an unequivocal disavowal of a particular meaning advanced by the patentee to overcome the prior art and obtain the patent narrows the “ordinary meaning of the claim congruent with the scope of surrender.”³⁷ Notably, “[w]hen multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any patent that

³³ *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1325 (Fed. Cir. 2002) (quoting *Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1347 (Fed. Cir. 1998)).

³⁴ *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003).

³⁵ *Id.* at 1324.

³⁶ *Id.*

³⁷ *Id.* See also *id.* at 1325 (“To balance the importance of public notice and the right of patentees to seek broad patent coverage, we have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope.”).

has issued applies with equal force to subsequently issued patents that contain the same claim limitation.”³⁸

IV. DISCUSSION

A. Claims Requiring Construction

Plaintiffs argue that only two claims need to be construed: “extract” and “food product.” Defendant agrees that those claims require construction but puts forth an additional eighteen terms to be construed. However, defendant concedes that the Court’s construction of “extract,” “extracting,” “food product,” “crucifer,” and “cruciferous” will “largely govern the disputed terms.”³⁹ The Court construes “extract” and “food product” as follows. The remainder of the terms disputed by defendant do not require separate construction.

1. “Extract”

a. Parties’ Contentions

Plaintiffs contend that because the “goal of the claimed inventions is to provide chemoprotective Phase 2 enzyme inducers using a dietary approach,” the “extract” made from the cruciferous plants “must provide the beneficial Phase

³⁸ *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 980 (Fed Cir. 1999).

³⁹ Caudill Seed & Warehouse Co., Inc.’s Claim Construction Brief (“Def. Mem.”) at 1.

2 enzyme[] [inducers] and/or their precursors.”⁴⁰ They propose the following construction as consistent with the language of the claims themselves, the patent specification, and the goal of the inventions:

the substance *containing beneficial amounts of Phase 2 enzyme inducers and/or their precursors* that results from the manipulation of one or more of cruciferous sprouts, seeds, plants, and/or plant parts, where the manipulation causes the separation of component fractions of the cruciferous sprouts, seeds, plants, and/or plant parts.⁴¹

Plaintiffs assert that the patents set forth a method whereby chemoprotective compound-rich sprouts and/or seeds are manipulated, resulting in component fractions. According to plaintiffs, the resultant “extract” must not only contain “chemoprotective G&I,”⁴² but be “that [component] fraction which exists . . . that contains the greatest amount of the desired [G&I].”⁴³ Moreover, the “manipulation” contemplated by plaintiffs’ proposed construction is not limited to exposure of the plant material to a solvent. As plaintiffs’ counsel noted during the Markman hearing, “manipulation” could include, for example, the act of grinding

⁴⁰ Plaintiffs’ Memorandum of Law Regarding Claim Construction (“Pl. Mem.”) at 8.

⁴¹ *Id.* (emphasis added).

⁴² Plaintiffs’ Reply Memorandum of Law Regarding Claim Construction (“Pl. Reply”) at 2.

⁴³ Pl. Mem. at 10.

the plant material in its dry state.⁴⁴

Defendant contends that the claim term “extract” should be narrowly construed to mean “material removed from a solid by use of a solvent, wherein the extract can contain the removed material and the solvent.”⁴⁵ According to defendant, the “extract” is solely the substance containing G&I that moves from the plant material into the solvent following exposure to the solvent, and it may (but does not have to) include the solvent itself.⁴⁶ Additionally, according to defendant, the chemoprotective compounds present in the extract must consist of *both* glucosinolates *and* isothiocyanates although defendant’s proposed construction of “extract” makes no mention of the presence of either compound.⁴⁷

⁴⁴ See 6/16/08 Markman Hearing Transcript (“Markman Hearing Tr.”) at 20:18-21 (The Court: “The process doesn’t have to be through the use of a non-toxic solvent. It could be as simple as grinding, is that true?” Plaintiffs’ counsel: “That’s correct.”).

⁴⁵ Def. Mem. at 16.

⁴⁶ See Markman Hearing Tr. at 53:8-13 (Defendant’s counsel: “[T]he claims that talk about an extract, they’re talking about the G&I that has been removed using a solvent from the seeds or sprouts and moved into the liquid, and that extract is only the liquid. So the G&I has to move into the liquid and out of the seeds or sprouts to be considered an extract in the context of these claims.”). See also *id.* at 54:7-10 (Defendant’s counsel: “[T]here is this concept of movement that you are taking the G&I, the good stuff, and removing it out of the seeds or sprouts and moving it into the solvent. So, there is this concept of movement.”).

⁴⁷ See Def. Mem. at 21.

Plaintiffs oppose defendant's proposed construction as inappropriate on a number of grounds: *first*, it defines "extract" without any reference to the presence of chemoprotective compounds, thus failing to consider the point of the invention.⁴⁸ Plaintiffs contend that the language of the claims requires that the "extract" contain "beneficial amounts" of the chemoprotective compounds and defendant's construction would "result in an 'extract' being merely solvent and other material, with no G&I"⁴⁹ *Second*, plaintiffs argue that nowhere do the claims require that the solvent must comprise part of the "extract."⁵⁰ *Third*, plaintiffs do not limit the extraction process to one that uses a solvent, as defendant proposes.

b. Intrinsic Evidence

i. Claim Language

The term "extract" is found in claim 18 of the '567 patent and claims 1, 2, 5, 6, 7, 8, 9, 10, and 12 of the '122 patent.⁵¹ Reviewing those claims, the claim language dictates that the "extract" must contain glucosinolates and/or

⁴⁸ See Pl. Mem. at 13.

⁴⁹ Pl. Reply at 2.

⁵⁰ See *id.*

⁵¹ See Parties' Proposed Claim Constructions ("Prop. Claim Constr."), App. A to Joint Claim Construction and Prehearing Statement.

isothiocyanates. For example, claim 9 of the ‘567 patent, which is referenced in claim 18, sets forth a “method of preparing a human food product, comprising *extracting [G&I]* from cruciferous sprouts rich in glucosinolates . . . , or from cruciferous seeds, or a combination thereof, with a non-toxic solvent, removing the extracted sprouts, seeds, or a combination thereof from said solvent, *and recovering the extracted [G&I]*.”⁵² Claims 16 and 17, which are also referenced in claim 18, refer to the “extracted [G&I].”⁵³ Giving the claim language its “ordinary and customary meaning,”⁵⁴ it is clear that the end product of the extraction process must contain glucosinolates and/or isothiocyanates – the very compounds that are at the core of the patents.

The Court, however, declines to construe the claim to require “*beneficial amounts* of the Phase 2 enzyme inducers and/or their precursors” – *i.e.*, glucosinolates and/or isothiocyanates – as plaintiffs propose.⁵⁵ The term “beneficial” is, in itself, vague and open to varied meanings and would have to

⁵² ‘567 Patent, Ex. 2 to Joint Exhibits, at col. 22 ll. 22-32 (emphasis added).

⁵³ *Id.* at col. 22 ll. 53-59.

⁵⁴ *Joao*, 418 F. Supp. 2d at 581 (“Words in the claim are generally given their ordinary and customary meaning.”).

⁵⁵ Pl. Mem. at 8 (emphasis added).

eventually be construed as well, if adopted. Indeed, as plaintiffs concede, “beneficial amounts” does not appear in the intrinsic evidence and nowhere is it quantified in a way that would provide guidance.⁵⁶ For similar reasons, the Court declines to include plaintiffs’ alternatively-proposed phrases “rich amount” or “substantial quantities” of glucosinolates and/or isothiocyanates in its construction.⁵⁷

Whether the claims require the use of a solvent to create an “extract,” whether the “extract” must include the solvent, and whether the “extract” is limited to the substance that is removed from the plant material into the solvent cannot be determined definitively from the claim language. Reading claim 9 of the ‘567 patent, a person of ordinary skill in the relevant art at the time of invention may understand the method to require recovery of the chemoprotective compounds from the solvent-exposed sprout or seed. The claim language sequentially presents the steps of “removing the extracted sprouts, seeds, . . . from

⁵⁶ See Markman Hearing Tr. at 22:25-23:3, 23:8-10 (The Court: “This phrase ‘beneficial amounts,’ is that just showing up in court or is that somewhere found in the patents? Because I couldn’t find the phrase ‘beneficial amounts,’ . . . in the patent language anywhere.” Plaintiffs’ counsel: “You will not see the term ‘beneficial.’”).

⁵⁷ Markman Hearing Tr. at 23:14-24:25.

said solvent and, and [sic] recovering the extracted [G&I],”⁵⁸ suggesting that the recovery is made from the removed sprout or seed. However, the claim does not actually specify from which fraction – whether it is the solid fraction or the solvent fraction – the glucosinolates and/or isothiocyanates are found, or whether the compounds are found in both fractions. As such, it is unclear which fraction constitutes the “extract,” as set forth by the claim language. Because the claim language is ambiguous, I now consider other intrinsic evidence.

ii. Patent Specification

According to the patent specification, the “extract” refers to the substance containing glucosinolates and/or isothiocyanates that results from the exposure of certain cruciferous plant materials to a non-toxic solvent. This substance can take a number of forms and is not limited to the material that moves out of the plant tissue into the solvent following exposure to the solvent, as defendant proposes. Rather, the specification makes clear that while the “extract” can be the material removed from the plant tissue into the solvent by the solvent, it can, for example, also be the solvent and the removed material, or collectively, the solvent, the removed material, *and* the original plant material.

For example, the specification notes the patentees have developed “an

⁵⁸ ‘567 Patent at col. 20 ll. 29-30.

improved *extraction* procedure”⁵⁹ and that

[t]he improved procedure is both simple and efficient, requiring only that the plant sample be completely homogenized in solvent. Using this technique, the present inventors have thus been able to demonstrate dramatic increases in the recovery of inducer activity and inducer potential from cruciferous vegetables over previously described techniques.⁶⁰

The specification sets forth a number of examples of experiments and embodiments. In Example 5, entitled “Inducer Potential of Broccoli Sprout Extracts,” the specification lists two methods for preparing plant “extracts”: “[s]prouts . . . were gently harvested and immediately and rapidly plunged into . . . boiling water in order to inactivate [] myrosinase as well as to extract [G&I] from the plant tissue. Water was returned to a boil and maintained at a rolling boil for 3 mins. The sprouts were then either strained from the boiled infusion (tea, soup) or homogenized in it, and the residue then removed by filtration or centrifugation.”⁶¹ The table of data corresponding to this example is entitled “Inducer Potentials of

⁵⁹ Patent Specification at col. 8 ll. 50-51 (emphasis added).

⁶⁰ *Id.* at col. 8 ll. 58-64. *See also id.* at col. 5 ll. 46-51 (“A further embodiment of the present invention provides a method of extracting glucosinolates and isothiocyanates from plant tissue which comprises homogenizing the plant tissue in an excess of a mixture of dimethyl sulfoxide, acetonitrile, and dimethylformamide at a temperature that prevents myrosinase activity.”).

⁶¹ *Id.* at col. 15 ll. 1-10.

Hot Water Extracts of 3-Day Saga Broccoli Sprouts,” and “represent[s] both homogenates and infusions.”⁶² It contains two columns. One is labeled “Extract No.” and the second column is a measurement of “units/g fresh weight.”⁶³

This example and its corresponding table suggest that “extracts” can be prepared by at least two different methods: *i.e.*, exposing the sprout or seed to boiling water and then straining the sprout or seed out thus creating an “infusion,” *or* homogenizing (for *e.g.*, grinding) the sprout or seed into the water thus creating a “homogenate.” Both are considered “extracts” for purposes of the patent.

In Example 11– entitled “Metabolism and Clearance of Glucosinolates in Humans” – a similar method for preparation of a “plant extract” is set forth. The example states that a “large quantity of sprouts was harvested by immediately and rapidly plunged [sic] into . . . boiling water in order to inactivate [] myrosinase as well as to extract [G&I] from the plant tissue. Water was returned to a boil and maintained at a rolling boil for 3 mins. Following the boiling step, sprouts were homogenized directly in their infusion water for 1 min. and the preparations were frozen [] until use.”⁶⁴ The method set forth in this

⁶² *Id.* at col. 15 ll. 11-12.

⁶³ *Id.* at col. 15 ll. 18-40.

⁶⁴ *Id.* at col. 20 ll. 14-24.

example again suggests that the “extract” can be comprised of not only the material removed from the solid, as defendant proposes, but the homogenized solid itself. The example refers to this type of “extract” as “broccoli sprout soup.”⁶⁵

Elsewhere, the patent specification suggests that the “extract” can be ingested directly,⁶⁶ such as the broccoli sprout soup from Example 11, as well as “soups, teas, or other drinks and infusions.”⁶⁷ The specification, however, allows for but does not appear to require that the solvent be present in order for the substance to constitute “extract.” It states that the “extract” can be “further treated . . . for example, be evaporated to yield a dried extracted product. It can be cooled, frozen, or even freeze-dried.”⁶⁸

“Extract” is construed to mean “the substance containing glucosinolates and/or isothiocyanates that results from the exposure of one or more of cruciferous sprouts, seeds, plants, and/or plant parts to a non-toxic

⁶⁵ *Id.* at col. 20 l. 1. *But see id.* col. 4 ll. 45-48 (referring to the sprouts and the extract as separate entities, stating that “[m]yrosinase enzyme, or a vegetable, such as *Raphanus* species, containing the enzyme is mixed with the cruciferous sprouts, the extract or both the sprouts and the extract”).

⁶⁶ *Id.* at col. 11 ll. 28-29.

⁶⁷ *Id.* at col. 11 l. 45.

⁶⁸ *Id.* at col. 11 ll. 28-32.

solvent.” It is not limited to the material that moves from the plant tissue into the solvent when the plant tissue is exposed to the solvent. For example, it can be the removed material separate from the solvent, or the removed material and the solvent, or the removed material and the solvent and the starting plant tissue from which the extraction was made. Under the patent, all of these configurations constitute the “extract.” This construction makes clear that the “extract” must contain the chemoprotective compounds – glucosinolates and/or isothiocyanates – that are the focus of the patent, as plaintiffs insist. It also acknowledges that there are different forms that the “extract” may take according to the specification, and does not limit “extract” solely to the “removed material” as defendant proposes.

However, contrary to plaintiffs’ proposal, this construction does not include the phrase “manipulation . . . where the manipulation causes the separation of component fractions of the cruciferous sprouts, seeds, plants, and/or plant parts.” That construction would theoretically include ground seeds or sprouts, for example, as “extract” because the act of grinding is technically a “manipulation [that] causes the separation of component fractions” But the specification does not use the terms “extract” or “extracting” when discussing this type of manipulation of the plant material. Indeed, the specification draws a distinction between grinding plant material versus extracting, stating: “Suitable crucifer

seeds may be ground into a flour or meal for use as a food or drink supplement . . .
 . . . *Alternatively*, the seeds may be extracted with a non-toxic solvent such as water .
 . . . to prepare soups, teas or other drinks and infusions.”⁶⁹

Because the specification consistently discusses “extract” or “extracting” together with “solvent,” it is inappropriate to omit any reference to the use of a solvent in the construction of “extract.” Indeed, plaintiffs have already conceded that the only “manipulation” described in the claims that results in the creation of an “extract” occurs through the use of a solvent.⁷⁰ The Court’s review reveals the same to be true of the specification as well.

For the foregoing reasons, the Court construes the term “extract” to mean “the substance containing glucosinolates and/or isothiocyanates that results from the exposure of one or more of cruciferous sprouts, seeds, plants, and/or plant parts to a non-toxic solvent.”

2. “Food Product

a. Parties’ Contentions

Plaintiffs propose that the claim “food product” be construed to mean

⁶⁹ *Id.* at col. 11 ll. 39-45.

⁷⁰ *See* Markman Hearing Tr. at 45:1-3 (The Court: “The only manipulation described is the use of a solvent.” Plaintiffs’ counsel: “In the claims, that’s correct.”).

“any ingestible substance containing beneficial amounts of Phase 2 enzyme inducers and/or their precursors.”⁷¹ According to plaintiffs, the claim language dictates that *first*, the “food product” must contain beneficial amounts of glucosinolates and/or isothiocyanates, and *second*, it is not limited to any particular type of food.⁷² Rather, it can take any form of an ingestible substance, such as breads, soup, food supplements, and pills.⁷³ Plaintiffs also note that because “extract” should be construed to contain beneficial amounts of G&I and because a “food product” is made with the “extract,” the “food product” will necessarily have glucosinolates and/or isothiocyanates as well.⁷⁴

Defendant offers the following construction of “food product”:

Any ingestible preparation *containing the sprouts of the instant invention*, which are identified and have the characteristics described in the ‘895 patent specification, at col. 10, 1.28 - col. 11, 1.17, or extracts or preparations *made from these sprouts*, which are capable of delivering Phase 2 inducers to the mammal ingesting the product.⁷⁵

Defendant contends that this construction of “food product” is proper because it is

⁷¹ Pl. Mem. at 15.

⁷² *See id.* at 15-17.

⁷³ *See id.* at 17.

⁷⁴ *See id.*

⁷⁵ Def. Mem. at 9 (emphasis added).

taken from the language of the patent specification's "Definitions" section.

According to defendant, the language dictates that "food product" must include sprouts (or sprout extracts) as a "baseline",⁷⁶ and those sprouts are limited to "those identified and described in the patent itself."⁷⁷ Because "the [plaintiffs] expressly limited this term to ingestible preparations that contain sprouts or extracts or preparations made from sprouts," defendant argues they cannot now reject that limitation by relying on the "goal" of the invention.⁷⁸ Moreover, defendants claim the prosecution history shows that plaintiffs distinguished the instant inventions from prior art by emphasizing that the "food product" is to be comprised of, at a minimum, the sprouts or the extracts made from those sprouts.

In rebuttal, plaintiffs contend that defendant has selectively read portions of the specification while ignoring other portions, and fails to consider "food product" in the context of the entire patent.⁷⁹ Claim 12 of the '122 patent,

⁷⁶ Markman Hearing Tr. at 69:22-24.

⁷⁷ Def. Mem. at 10-11.

⁷⁸ Def. Reply at 2 (quoting Pl. Mem. at 15).

⁷⁹ Plaintiffs do concede, however, that the "definition" of "food product" found in the specification was perhaps an inadvertent failure on the part of the drafter to reflect the meaning of "food product" in light of the claims. *See* Markman Hearing Tr. at 38:20-39:6 (The Court: "[What accounts for the fact] [t]hat the first definition would make it appear limited to sprouts? Is it bad drafting?" Plaintiffs' counsel: "I would assert that it is" The Court: "So if

for example, claims a “food product comprising a source of [G&I], wherein said [G&I] source is a cruciferous seed *or* cruciferous sprout, or extract of said seed or sprout”⁸⁰ Plaintiffs contend that the language of the claims would be read by someone with ordinary skill in the relevant art to not require the presence of sprouts or sprout extracts in the “food product,” but to include “any combination of one or more sprouts, seeds, plants, plant parts, or extracts thereof.”⁸¹

Additionally, plaintiffs argue that defendant’s construction of “food product” is inconsistent with its construction of “extract” because, elsewhere, defendant proposes that “extracting” means “removing [G&I] by a solvent from solid material, *i.e.*, seeds, sprouts, etc.”⁸² Because this proposed construction acknowledges that the source of G&I can be non-sprout material, such as seeds, it follows that the “food product” would not necessarily contain sprout-material either.⁸³

The dispute between the parties focuses on when and how a definition

you were able to start over, you just wouldn’t have that paragraph.” Plaintiffs’ counsel: “Correct.”).

⁸⁰ ‘122 Patent, Ex. 3 to Joint Exhibits, at col. 22 (emphasis added).

⁸¹ Pl. Reply at 7.

⁸² *Id.* at 4 (quoting Def. Mem. at 16).

⁸³ *See id.*

set forth in the specification limits or otherwise modifies the claim language. The “inventor may use the specification to give a special definition to claim terms distinct from their ordinary meaning, or to disclaim or disavow potential claim scope.”⁸⁴ “In such cases, the inventor’s intention to define or disclaim must be clearly expressed in the specification.”⁸⁵ The Federal Circuit has made clear that “[w]hile the specification is helpful in understanding the meaning of the claim terms, the court may not simply import limitations into the patent claims from the specification, particularly based on a preferred embodiment or embodiments.”⁸⁶

At the Markman Hearing and in their written submissions, the parties relied on and cited to the Federal Circuit’s recent decision in *Sinorgchem Co., Shandong v. International Trade Comm’n* (“*Sinorgchem*”) in support of their respective positions.⁸⁷ According to defendant, *Sinorgchem* stands for the proposition that where a patentee “clearly, deliberately, and with precise language” defines a claim term, that definition governs even if it then “render[s]

⁸⁴ *Alloc, Inc. v. Norman D. Lifton Co.*, No. 03 Civ. 4419, 2007 WL 2089303, at *2 (S.D.N.Y. July 18, 2007) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005)).

⁸⁵ *Id.* (citing *Conoco, Inc. v. Energy & Env’tl. Int’l, Inc.*, 460 F.3d 1349, 1357-58 (Fed. Cir. 2006)).

⁸⁶ *Id.* (citations omitted).

⁸⁷ 511 F.3d 1132 (Fed. Cir. 2007).

some of the disclosed embodiments inoperable.”⁸⁸ Analogizing the instant case to *Sinorgchem*, defendant contends that because plaintiffs chose to act as their own lexicographer and expressly define “food product,” that definition must be read into the claim language even if it then limits the scope of the patent.⁸⁹ Plaintiffs dispute defendant’s analogy to *Sinorgchem*, contending that the case is actually consistent with their approach because there, the court only adopted the definition after finding it to be consistent with the rest of the specification and the claims.⁹⁰ A similar holding could not be reached here, according to plaintiffs, where adopting the definition of “food product” found in the specification would create internal inconsistency “when the patents are considered as a whole.”⁹¹

b. Intrinsic Evidence

i. Claim Language

Substantively, the key difference between the parties’ proposed constructions is the question of whether “food product” must contain, at a

⁸⁸ Def. Opp. at 10 (citing *Sinorgchem*, 511 F.3d at 1136-38).

⁸⁹ See, e.g., Markman Hearing Tr. at 76:11-15 (Defendants’ counsel: “This is, of course, because the specification is acting as a dictionary, as we talked about, and *Sinorgchem* says, basically, there’s no need to search further.”).

⁹⁰ See Pl. Reply at 7.

⁹¹ *Id.* at 8.

minimum, cruciferous sprouts. The parties agree that the term “food product” is found in claims 14 and 15 of the ‘895 patent, claims 9, 16, and 18 of the ‘567 patent, claims 1 and 2 of the ‘018 patent, and claims 10, 13, 15, 16, 17, 18, 19, 20, 21, 23, 24, and 26 of the ‘770 patent.⁹²

Claim 12 of the ‘122 patent expressly states that the patentees claim a “food product comprising a source of [G&I], wherein said [G&I] source is *a cruciferous seed or cruciferous sprout, or extract of said seed or sprout . . .*.”⁹³

Claim 9 of the ‘567 patent also describes the “food product” as containing extracted G&I from cruciferous sprouts or seeds, or “a combination thereof.”⁹⁴

Giving the “or” found in the claim language its ordinary meaning, the claim provides alternatives to serve as the source of the G&I and does not require any single source: *i.e.*, either sprouts *or* seeds *or* sprout extract *or* seed extract *or* both.

Similarly, claim 10 of the ‘770 patent generally states that the patentees claim a “method of making a food product comprising extracting [G&I] *from cruciferous plant tissue . . .*,” and claim 15 further explains that “said plant tissue is *selected from the group consisting of cruciferous sprouts* measured after 3 days of growth,

⁹² See Prop. Claim Constr. at 2.

⁹³ ‘122 Patent at col. 22 l. 13 (emphasis added).

⁹⁴ ‘567 Patent at col. 22 l. 30.

cruciferous seeds, plants, and plant parts.”⁹⁵

The claim language unambiguously states that “food product” can be comprised of sprout or seed material, or their extracts. However, even where it is largely undisputed that the claim language is unambiguous, the inclusion of a “special definition” in the specification indicates that the “inventor has dictated the correct claim scope.”⁹⁶ As a result, I turn to the question of whether the specification does in fact reveal such a definition.

ii. Patent Specification

As an initial matter, the Federal Circuit in *Sinorgchem* made clear that “a definition set forth in the specification governs the meaning of the claims.”⁹⁷ However, the court further noted that the definition found in the specification must explain and define the term “without ambiguity or incompleteness.”⁹⁸

Here, it is undisputed that the drafters chose to include a section entitled “Definitions” in their specification despite not being required to do so. It is further undisputed that the drafters wrote, “A food product *is*[.]” thus

⁹⁵ ‘770 Patent at col. 22 ll. 37-39.

⁹⁶ *Phillips*, 415 F.3d at 1316.

⁹⁷ *Sinorgchem*, 511 F.3d at 1138 (citation omitted).

⁹⁸ *Id.* (quoting *Multiform Dessicants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998)).

signaling that what follows is a definition.⁹⁹ Although plaintiffs do not advance this argument, it appears that the definition for “food product” is not “without ambiguity,” and therefore cannot be accorded the weight that defendant seeks under *Sinorgchem*.

The paragraph that constitutes the “definition” of “food product” in the specification consists of four sentences. Defendant contends that the first sentence unambiguously defines a “food product” as “any ingestible preparation containing the sprouts of the instant invention, or extracts or preparations made from these sprouts”¹⁰⁰ During the Markman Hearing, defendant argued that this definition for “food product” must be read into the claim language such that every time “food product” appears, the reader knows that sprouts must be included.

Reading the following sentences in the paragraph, however, raises ambiguities that call into question whether the drafters intended to expressly define “food product” in accordance with the limit set forth in the first sentence. For example, the sentences that immediately follow the purported “definition”

⁹⁹ *But see Abbott Labs. v. Andrx Pharms., Inc.*, 473 F.3d 1196, 1210 (Fed. Cir. 2007) (stating that, as compared to “means,” the word “is” “does not as unambiguously signify that the description provided is definitional”).

¹⁰⁰ ‘895 Patent at col. 6 ll. 27-29.

continue to modify the term “food product” with the phrase “containing the sprouts of the instant invention.”¹⁰¹ This redundancy – *i.e.*, reciting “containing sprouts of the instant invention” as a modifier of “food product” – is troubling because according to the first sentence of the same paragraph (and defendant’s proposed definition), the term “food product” already encompasses “sprouts of the instant invention.” While I cannot surmise the intent of the drafters in including this paragraph in the specification, I find there to be sufficient ambiguity such that the “definition” cannot be accorded the weight of “express definitional language” that defines a term “without ambiguity or incompleteness.”¹⁰²

Elsewhere in the specification, the drafters’ elaboration upon the meaning of “food product” accords with the relevant claim language. For example, the specification states in pertinent part:

Food products of the instant invention may include sprouts, seeds or extracts of sprouts or seeds taken from one or more different crucifer genera It has been found that genetically distinct crucifers produce chemically distinct Phase 2 enzyme-inducers. Different Phase 2 enzyme-inducers detoxify chemically distinct carcinogens at different rates. Accordingly, food products composed of genetically distinct crucifer sprouts or seeds, or

¹⁰¹ See, *e.g.*, *id.* at col. 6 ll. 31-35 (“The *food product* can be freshly prepared such as salads, drinks or sandwiches *containing sprouts of the instant invention*. Alternatively, the *food product containing sprouts of the instant invention* can be dried, cooked, boiled, lyophilized or baked.”) (emphasis added).

¹⁰² *Sinorgchem*, 511 F.3d at 1128 (citations omitted).

extracts or preparations made from these sprouts or seeds, will detoxify a broader range of carcinogens.¹⁰³

iii. Prosecution History

The Federal Circuit has recognized that “because the prosecution history represents an ongoing negotiation between the [US]PTO and the applicant . . . it often lacks the clarity of the specification and is thus less useful for claim construction purposes.”¹⁰⁴ Because the parties have submitted the prosecution histories as evidence and because these histories “can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution,” I have reviewed them.¹⁰⁵

Defendant has pointed to various portions of the prosecution histories for the patents at issue where plaintiffs attempted to distinguish the instant patents from prior art by arguing that the prior art did not teach a method for preparing food products comprised of the recited cruciferous sprouts or sprout extracts.¹⁰⁶

¹⁰³ ‘895 Patent at col. 11 ll. 50-60.

¹⁰⁴ *Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1372 (Fed. Cir. 2007) (quoting *Phillips*, 415 F.3d at 1317).

¹⁰⁵ *Phillips*, 415 F.3d at 1317 (citations omitted).

¹⁰⁶ *See* Def. Mem. at 11-16.

Plaintiffs contend that defendant's reliance on the prosecution histories is misplaced because their emphasis on sprouts and sprout extracts during the patent application process was simply in response to the USPTO's "sprout-based" conclusion that the '895 patent, for example, should be rejected because of obviousness in light of prior art.¹⁰⁷ "The inventors did not address the rejected claims' recitation of cruciferous seeds, plants, or plant parts because that information was not necessary to rebut the Examiner's sprout-based conclusion; those features were never asserted as a basis of unpatentability."¹⁰⁸

Plaintiffs are correct. The Court's review of the prosecution history for the '895 patent, as an example, reveals that the USPTO rejected certain claims of that patent as "unpatentable over Kenjirou" which "disclose[s] broccoli sprouts."¹⁰⁹ In response, the plaintiffs then set forth in their report requesting reconsideration of the USPTO's rejection the reasons why *first*, the prior art does not disclose a method for preparing broccoli sprouts and *second*, even if it did, why the instant invention discloses a sprout-based method that constitutes an

¹⁰⁷ Pl. Reply at 8.

¹⁰⁸ *Id.*

¹⁰⁹ Report of Leslie Wong, Primary Examiner, USPTO, Ex. 1 to Joint Exhibits, at 1-C31.

improvement that is distinct from the prior art.¹¹⁰ Considering the context of the basis for the USPTO's rejection of the patents, it is reasonable that plaintiffs focused their response on the specific issues raised by the prior art.

Moreover, plaintiffs did not disavow claim scope over cruciferous seeds or seed extracts through their exchanges with the USPTO. "The required words or expressions of manifest exclusion or restriction representing a clear disavowal of claim scope are not present in these passages from the prosecution history."¹¹¹

Based on the claim language, the specification, and the prosecution history, I adopt the following construction of the term "food product": "any ingestible preparation containing the sprouts, seeds, extracts of sprouts, or extracts of seeds of the instant invention, which are capable of delivering the Phase 2 inducers through ingestion."

V. CONCLUSION

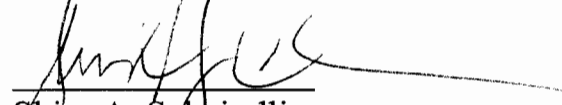
For the reasons set forth above, the disputed claim terms are construed as follows: "extract" is "the substance containing glucosinolates and/or

¹¹⁰ See Amendment and Request for Reconsideration Under 37 C.F.R. §1.111, Ex. 1 to Joint Exhibits, at 1-C36-44.

¹¹¹ *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1309 (Fed. Cir. 2005).

isothiocyanates that results from the exposure of one or more of cruciferous sprouts, seeds, plants, and/or plant parts to a non-toxic solvent.” “Food product” is “any ingestible preparation containing the sprouts, seeds, extracts of sprouts, or extracts of seeds of the instant invention, which are capable of delivering the Phase 2 inducers through ingestion.” A conference is scheduled for August 7, 2008, at 4:30 p.m.

SO ORDERED:



Shira A. Scheindlin
U.S.D.J.

Dated: New York, New York
July 15, 2008

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